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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/749,050
Filing Date: December 27, 2000
Appellant(s): KRAUTER ET AL.

Gerard A. Messina
Reg. No. 35,952
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 26 Marcy 2007 appealing from the Office action mailed 24 May 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claims 1-7, and 9 as being indefinite under the second paragraph of 35 U.S.C. § 112.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,044,014	KOMORI	3-2000
5,658,250	BLOMQUIST	8-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-7, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berra, US patent 5787367 and Komori, US patent 6044014 and Blomquist et al. ,US patent 5658250.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berra, US patent 5787367 and Komori, US patent 6044014.

In reference to claim 1:

Berra discloses a method for detecting a manipulation of a programmable memory device of a digital controller for a motor vehicle, comprising the steps of:

- Storing in the programmable memory device data and control programs for an operation of the digital controller and for a control/regulation of function of the motor vehicle, where the programmable memory device is flash memory that contains software to control the engine unit. (Column 1, lines 30-41) & (Column 5, lines 1-10)
- Storing information regarding a programming/reprogramming operation in a separate memory area of the programmable memory device where only reading and programming are possible (Column 1, lines 52-55), the step of storing information regarding the programming/reprogramming operation being performed in conjunction with each programming/reprogramming operation of the programmable memory device, where the

information regarding the programming/reprogramming operation is stored in the authorization database and the memory of the programmable memory device. (Column 7, line 57 – Column 18, line 15)

- Reading out and comparing a content of the separate memory area with another set of information in order to detect a manipulation, wherein a remaining memory area of the programmable memory device is capable of being erased, where the separate memory area is the authorization database from which the encrypted information is compared. (Column 7, line 57 – Column 8, line 15), and where the ROMs used by Berra include EEPROMS and EPROMS which are ROMs capable of being erased. (Column 1, lines 57-67)

Berra fails to explicitly disclose a method wherein storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed.

Komori et al. Figures 3, 4, (Column 1, lines 38-63), (Column 4, lines 20-34), (Column 5, lines 30-41), (Column 6, lines 50-51) discloses storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed.

Komori et al. (Column 1, lines 38-63), further discloses that the reason this is performed, that is, the advantage of recording the number of times the ROM or EEPROM has been programmed or

reprogrammed, lies in the fact that EEPROMs can only be written and rewritten a finite number of times. Thus, by recording the number of rewrites that have been made, one can be certain not to allow the number of rewrites to exceed a maximum allowable number of rewrites beyond which, the performance of the EEPROM may degrade or cannot be guaranteed.

Berra fails to explicitly disclose the embodiment of claim 1, wherein the separate memory area is incapable of being erased.

US Patent 5658250, Blomquist et al. (Column 7, lines 50 – Column 8, line 65) discloses an embodiment wherein the control program is stored in flash memory that is incapable of being erased. Furthermore, US patent 5658250 discloses that such a memory is readily available by the Intel corporation.

In particular paragraphs 39 and 40 recite:

(39) Flash memory 150 preferably includes a boot program which is preferably non-erasable. The boot program permits initialization and loading of pump operation information to the pump 12 via communications port 26. Further, a gate array 149 and/or flash memory 150 includes appropriate programming to handle incoming data from communications port 26 or keyboard 24 wherein the information is directed to the proper storage location if the information is not to be stored in flash memory 150. For example, remote programming may be utilized to enter the patient specific information into control system 100. The patient specific information may be entered initially or when changes occur over time due to changes in the specific therapy needed. For example, if the patient's condition improves or worsens, changes may need to be made in the specific patient settings. The flash memory 150 may include the appropriate program or programs to direct storage of the patient specific settings to the appropriate memory device in control system 100.

(40) Flash memory 150 is an embedded memory associated with control module 14. Once installed in control module 14, flash memory 150 is not removed from pump 12. Flash memory 150 is electrically erasable and reprogrammable and does not require power to maintain the contents of its memory. A variety of flash memories may be used for flash memory 150. An example of one preferred flash memory which is usable in pump 12 is by Intel Corporation, and identified as

28F008SA 8 MBIT (1 MBIT.times.8) Flashfile.TM. memory. Such memory is useful in pump 12 for handling pump operations information associated with the various features provided on pump 12. The Intel product is useful in that it includes separately erasable and reprogrammable blocks of memory, at least one of which can be blocked from erasure once programmed with the desired information.

Blomquist et al. teaches that such memory is useful because certain information that is desired to be protected can be blocked from erasure once programmed.

It would have been obvious to one of ordinary skill in the art at the time of invention to storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed with the rest of the stored information of Berra in order to guarantee the number of rewrites does not exceed a maximum which is known to exceed a functional lifetime of the EEPROM, preventing the writing of data to a medium in which the functioning cannot be assured and to use flash memory, that cannot be erased to better secure the control program.

In reference to claim 2:

Berra discloses a database containing a series of variables and a password and serial identification number that must be compared to be fully authorized. (Column 3, line 7-35)

Komori et al. Figures 3, 4, (Column 1, lines 38-63), (Column 4, lines 20-34), (Column 5, lines 30-41) , (Column 6, lines 50-51) discloses an embodiment where in the separate memory area, information regarding a cumulative number of programming/reprogramming operations of the programmable memory device is stored.

Claim 3 is rejected for the same basis as claim 2.

In reference to claim 4:

Berra (Column 1, lines 42-65) discloses the method according to claim 1, wherein the information regarding the programming/reprogramming is stored in the separate memory area by setting bits, where it is known that digital information is stored as a series of zero and one bits.

In reference to claim 5:

Berra disclose the method according to claim 1, further comprising the step of:

Storing the information regarding the programming/reprogramming in a one-time-programmable region of the programmable memory device, the programmable memory device being arranged as a flash memory, where the flash memory that is one time programmable is known as a PROM. (Column 1, line 41-54)

In reference to claim 6:

Berra discloses the method according to claim 1, further comprising the step of:

Storing in the separate memory area information from an external programming unit for programming/reprogramming a flash memory, where information is stored in the database

concerning the authorization information necessary to program or reprogram the flash memory. (Column 3, line 7-35)

In reference to claim 7:

Berra discloses the method according to claim 1, further comprising the step of:

Storing in the separate memory area information from an arrangement of the digital controller for storing the information regarding the programming/reprogramming operation, where information is stored in the database concerning the authorization information necessary to program or reprogram the flash memory. (Column 3, line 7-35)

In reference to claim 8:

Berra discloses an external programming unit for at least one of programming and reprogramming a flash memory of a digital controller for a motor vehicle, the flash memory including a programmable memory device, the external programming unit comprising:

- An arrangement for storing in the flash memory data and control programs for an operation of the digital controller and for a control/regulation of functions of the motor vehicle, where the programmable memory device is flash memory that contains software to control the engine unit. (Column 5, lines 1-10)
- An arrangement for storing information regarding a programming/reprogramming operation in a separate memory area of the programmable memory device where only reading and programming are possible (Column 1, lines 52-55), the storing of the information regarding the programming/reprogramming operation occurring in

conjunction with each programming/reprogramming operation of the programmable memory device, where the information regarding the programming/reprogramming operation is stored in the authorization database and the memory of the programmable memory device. (Column 7, line 57 – Column 18, line 15)

- An arrangement for reading out and comparing a content of the separate memory area with another set of information in order to detect a manipulation, where the password and set of variables are read out and compared. (Column 7, line 40 – Column 8, line 15)
- An arrangement for storing in the separate memory area information from an external programming unit for programming/reprogramming the flash memory, wherein a remaining memory area of the programmable memory device is capable of being erased, where the separate memory area information is the authorization database. (Column 3, lines 7-35), and where the ROMs used by Berra include EEPROMS and EPROMS which are ROMs capable of being erased. (Column 1, lines 57-67)

Berra fails to explicitly disclose a method wherein storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed.

Komori et al. Figures 3, 4, (Column 1, lines 38-63), (Column 4, lines 20-34), (Column 5, lines 30-41), (Column 6, lines 50-51) discloses storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed.

Komori et al. (Column 1, lines 38-63), further discloses that the reason this is performed, that is, the advantage of recording the number of times the ROM or EEPROM has been programmed or reprogrammed, lies in the fact that EEPROMs can only be written and rewritten a finite number of times. Thus, by recording the number of rewrites that have been made, one can be certain not to allow the number of rewrites to exceed a maximum allowable number of rewrites beyond which, the performance of the EEPROM may degrade or cannot be guaranteed.

It would have been obvious to one of ordinary skill in the art at the time of invention to storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed with the rest of the stored information of Berra in order to guarantee the number of rewrites does not exceed a maximum which is known to exceed a functional lifetime of the EEPROM, preventing the writing of data to a medium in which the functioning cannot be assured.

In reference to claim 9:

Berra discloses a digital controller for a motor vehicle, comprising:

- A programmable memory device for storing data and control programs for an operation of the digital controller and for a control/regulation of functions of the motor vehicle, where the programmable memory device is flash memory that contains software to control the engine unit. (Column 5, line 1-10)

- An arrangement for storing information regarding a programming/reprogramming operation in a separate memory area of the programmable memory device where only reading and programming are possible (Column 1, lines 52-55), the storing of the information regarding the programming/reprogramming operation occurring in conjunction with each programming/reprogramming operation of the programmable memory device, where the information regarding the programming/reprogramming operation is stored in the authorization database and the memory of the programmable memory device. (Column 7, line 57 – Column 18, line 15)
- An arrangement for reading out and comparing a content of the separate memory area with another set of information in order to detect a manipulation, where the password and set of variables are read out and compared. (Column 7, line 40 – Column 8, line 15)
- An arrangement for storing in the separate memory area information from an arrangement of the digital controller for storing the information regarding the programming/reprogramming operation, wherein a remaining memory area of the programmable memory device is capable of being erased, where the separate memory area information is the authorization database. (Column 3, line 7-35), and where the ROMs used by Berra include EEPROMS and EPROMS which are ROMs capable of being erased. (Column 1, lines 57-67)

Berra fails to explicitly disclose a method wherein storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed.

Komori et al. Figures 3, 4, (Column 1, lines 38-63), (Column 4, lines 20-34), (Column 5, lines 30-41), (Column 6, lines 50-51) discloses storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed.

Komori et al. (Column 1, lines 38-63), further discloses that the reason this is performed, that is, the advantage of recording the number of times the ROM or EEPROM has been programmed or reprogrammed, lies in the fact that EEPROMs can only be written and rewritten a finite number of times. Thus, by recording the number of rewrites that have been made, one can be certain not to allow the number of rewrites to exceed a maximum allowable number of rewrites beyond which, the performance of the EEPROM may degrade or cannot be guaranteed.

Berra fails to explicitly disclose the embodiment of claim 9, wherein the separate memory area is incapable of being erased.

US Patent 5658250, Blomquist et al. (Column 7, lines 50 – Column 8, line 65) discloses an embodiment wherein the control program is stored in flash memory that is incapable of being erased. Furthermore, US patent 5658250 discloses that such a memory is readily available by the Intel corporation.

In particular paragraphs 39 and 40 recite:

(39) Flash memory 150 preferably includes a boot program which is preferably non-erasable. The boot program permits initialization and loading of pump operation information to the pump 12 via communications port 26. Further, a gate array 149 and/or flash memory 150 includes appropriate programming to handle incoming data from communications port 26 or keyboard 24 wherein the information is directed to the proper storage location if the information is not to be stored in flash memory 150. For example, remote programming may be utilized to enter the patient specific information into control system 100. The patient specific information may be entered initially or when changes occur over time due to changes in the specific therapy needed. For example, if the patient's condition improves or worsens, changes may need to be made in the specific patient settings. The flash memory 150 may include the appropriate program or programs to direct storage of the patient specific settings to the appropriate memory device in control system 100.

(40) Flash memory 150 is an embedded memory associated with control module 14. Once installed in control module 14, flash memory 150 is not removed from pump 12. Flash memory 150 is electrically erasable and reprogrammable and does not require power to maintain the contents of its memory. A variety of flash memories may be used for flash memory 150. An example of one preferred flash memory which is usable in pump 12 is by Intel Corporation, and identified as 28F008SA 8 MBIT (1 MBIT.times.8) Flashfile.TM. memory. Such memory is useful in pump 12 for handling pump operations information associated with the various features provided on pump 12. The Intel product is useful in that it includes separately erasable and reprogrammable blocks of memory, at least one of which can be blocked from erasure once programmed with the desired information.

Blomquist et al. teaches that such memory is useful because certain information that is desired to be protected can be blocked from erasure once programmed.

It would have been obvious to one of ordinary skill in the art at the time of invention to storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed with the rest of the stored information of Berra in order to guarantee the number of rewrites does not exceed a maximum which is known to exceed a functional lifetime of the EEPROM, preventing the writing of data to a medium in which the functioning cannot be assured and to use flash memory, that cannot be erased to better secure the control program.

In reference to claim 10:

Berra (Column 2, lines 1-10) discloses the method according to claim 1, wherein the separate memory area lacks hardware for performing an erase operation thereon, where the flash ROM does not have hardware for performing individual cell erase operations.

Claim 11 is rejected for the same reasons as claim 10.

(10) Response to Argument

Appellant argues, "after being programmed once this boot program is also not programmable. So that's the problem of the flash memory 150 mentioned in the Blomquist reference. *In contrast, with the presently claimed subject matter of claims 1 and 9 (and 8), they each require a separate memory area in which information may be stored, so that it may be programmed and read but not erased...* In the Blomquist reference, there is no such single area, since it refers to one area, a flash memory 150, which can be electrically erased and rewritten." This argument is not persuasive because Blomquist discloses that the flash memory includes separately erasable and reprogrammable blocks of memory, **at least one of which can be blocked from erasure once programmed with the desired information** (Blomquist: Col. 8, lines 52-56). Therefore, it is clear that Blomquist includes a memory area that may be read out and may be programmed such that there is information that is written into this area, which is not erasable as claimed. It would have been obvious to one of ordinary skill in the art at the time of invention to storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been

programmed/reprogrammed with the rest of the stored information of Berra in order to guarantee the number of rewrites does not exceed a maximum which is known to exceed a functional lifetime of the EEPROM, preventing the writing of data to a medium in which the functioning cannot be assured and to use flash memory, that cannot be erased to better secure the control program (as taught by Blomquist Col. 8, lines 23-56).

Appellant argues, "The Blomquist reference does not disclose (and the other references are not asserted to cure and do not cure this lack of disclosure) that in conjunction with each programming/reprogramming operation of the programmable memory device an information with regard to this programming/reprogramming operation is stored in a separate memory area, whereby this memory area is built up so that only reading and storing of information is possible – but no erasing of information. The references relied upon, including Blomquist, do not disclose nor suggest a special single memory area with this feature, as provided for in the context of each claims 1 and 9 (and 8), as explained herein." This argument is not persuasive because Berra discloses a memory area (Figure 3) that includes programmed control software (Figure 3, 47) and a second memory area that stores data values to prevent unauthorized manipulation of the programmed control software (Figure 3, 41 & Col. 7, line 64 – Col. 8, line 37). Berra does not disclose that these stored values are counters. Komori discloses a flash memory unit that stores a count value that is incremented each time the flash memory is reprogrammed, and the count value is checked against a threshold number to determine whether the flash memory can be reprogrammed (Col. 5, line 31 – Col. 6, line 11), which meets the limitation of in conjunction with each programming/reprogramming operation of the programmable memory device an information with regard to this programming/reprogramming operation is stored in a separate

memory area. Neither Berra nor Komori discloses that the flash memory includes an area that is incapable of being erased. Blomquist discloses a flash memory that includes an area that is incapable of being erased (Col. 8, lines 53-56, as discussed above), which meets the limitation of whereby this memory area is built up so that only reading and storing of information is possible – but no erasing of information. It would have been obvious to one of ordinary skill in the art at the time of invention to storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed with the rest of the stored information of Berra in order to guarantee the number of rewrites does not exceed a maximum which is known to exceed a functional lifetime of the EEPROM (as taught by Komori (Col. 5, line 31 – Col. 6, line 11), preventing the writing of data to a medium in which the functioning cannot be assured and to use flash memory, that cannot be erased to better secure the control program (as taught by Blomquist Col. 8, lines 23-56).

Examiner wishes to note that contrary to Appellant's contention, claim 8 does not include the limitation of "wherein the separate memory area is incapable of being erased," as included in claims 1 and 9. Therefore, Appellant's argument that "claim 8 essentially requires that the separate memory area is incapable of being erased. The Final Office Action admits that Berra and Komori do not disclose this feature, so that claim 8 is allowable for essentially the same reason explained above as to claims 1 and 9," is not persuasive because claim 8 includes no such limitation.

In response to applicant's argument that there is no suggestion to combine the Berra and Komori references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art at the time of invention to storing information regarding a programming/reprogramming operation including recording a number of times the programmable memory device has been programmed/reprogrammed with the rest of the stored information of Berra in order to guarantee the number of rewrites does not exceed a maximum which is known to exceed a functional lifetime of the EEPROM (as taught by Komori (Col. 5, line 31 – Col. 6, line 11), preventing the writing of data to a medium in which the functioning cannot be assured.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Benjamin E. Lanier
Examiner Art Unit 2132
Granted Temporary Full Signatory Authority

Conferees:

Gilberto Barron
SPE Art Unit 2132

Matthew Smithers

/Matthew Smithers/
Primary Examiner, Art Unit 2137